

REMARKS

Claims 4, 6-15 and 17-23 are pending in this application. Applicants thank the Examiner for indication that the claims 20 and 21 are in condition for allowance. The Amendment And Response filed on December 23, 2003, in response to the final Office Action (dated November 5, 2003) has not been entered. Applicants respectfully request reconsideration of the above-identified application, in view of the above amendments and the following remarks.

Claim Rejections – 35 U.S.C. § 102

Claims 4, 6, 8, 10-18, 22 and 23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Weidely (US Patent No. 1,489,180). Applicants respectfully submit that independent claims 10, 22 and 23 as amended, as well as claims dependent therefrom, are not anticipated by the Weidely patent, in view of the following remarks.

1. Independent claim 10 has been amended to recite “wherein the protrusion includes a plurality of integral ribs.” Support for this amendment can be found, for example, page 13, lines 9-11 in the specification and Fig. 9(b).

The Examiner states that Weidely patent discloses the ribs as clearly shown in FIG. 2. See final Office Action (dated Nov. 5, 2003) page 2. However, Applicants disagree with the Examiner’s contention. To establish the inherency of the result or characteristic in the prior art reference, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient. See MPEP §2112. Applicants respectfully submit that the specification of Weidely patent does not expressly nor implicitly mention any structures that are the ribs reinforcing the end wall of the piston. The lines in FIG. 2 which the Examiner defines as B [see

final Office Action at page 2], might show just the contour of the inner surface of the piston, since they are not assigned even numerical reference numbers.

Nevertheless, Applicants have amended claim 10 to recite that the plurality of ribs are integral with the protrusion. As shown in Figure 9(b), for example, the ribs are shown to be of one-piece construction. Such an integral construction is not shown in Weidely. Even if the lines defined as B, are the ribs as the Examiner pointed out, Weidely patent does not disclose that the ribs are integral with the protrusion. If the ribs B were integral with the protrusion, they would have been shown in FIG. 2 of Weidely in crosshatched just as the cross-section of the protrusion; but the “ribs” B are not so shown in FIG 2. Since the ribs B in Weidley patent are not integral with the protrusion, they do not contribute to reinforcing the end wall of the piston. That is, Weidely patent does not teach and suggest the features recited in claim 10.

Accordingly, Applicants submit that independent claim 10 is not anticipated by the Weidely patent. Furthermore, for at least this reason, Applicants submit that claims 11-15, 17 and 18, which directly or indirectly depend from independent claim 10 are also patentably distinct from the Weidely patent. Accordingly, Applicants respectfully request withdrawal of this ground of rejection.

2. Independent claims 22 and 23 have been amended to recite the thickness of the end wall first decreases from the radially outside portion toward the radially inside portion and then increases, wherein the thinnest portion of the end wall is closer to the outermost peripheral portion of the inner end face than to the axial center of the inner end face with respect to the radial direction of the inner end face, respectively. Support for this amendment can be found, for example, from page 10, lines 1-29 in the specification, and Figs. 2-4. As described in

the specification, an imaginary circle K, which is shown in Fig. 4, illustrates the boundary between an annular concave portion 371 and a convex portion 372. As shown in Figs. 2 and 3, the radius of an outer arcuate line 373, which is a generatrix of the annular concave portion 371, is smaller than that of an inner arcuate line 374, which is a generatrix of the convex portion 372 (page 10, lines 12-13). These recitations show that the thinnest portion of the end wall is closer to the outermost peripheral portion of the inner end face than to the axial center of the inner end face with respect to the radial direction of the inner end face.

As shown in FIG. 2 in the Weidely patent, the thinnest portion of the end wall is closer to the axial center of the inner end face than to the outermost peripheral portion of the inner end face with respect to the radial direction of the inner end face. Therefore, Weidely patent discloses a structure that is the exact opposite of claims 22 and 23. That is, Weidely patent does not teach and suggest the features in claims 22 and 23.

Accordingly, for at least this reason, Applicants submit that independent claims 22 and 23 are not anticipated by the Weidely patent. Similarly, since claims 4 and 6-9 are directly or indirectly dependent on independent claims 22 and 23, they are also not anticipated by the Weidely patent. Therefore, Applicants respectfully request withdrawal of this ground of rejection.

Claim Rejections – 35 U.S.C. § 103

Claims 9 and 19 were rejected under 35 U.S.C. § 103, as being unpatentable over Weidely, in view of Gruetjen (US Patent No. 2,539,903). Applicants respectfully request reconsideration in view of the following remarks.

Applicants respectfully submit that claims 9 and 19 are patentably distinct from the cited references. Specifically, Applicants submit Gruetjen does not remedy the deficiencies detailed above regarding independent claims 10 and 23 as amended. Accordingly, since claims 9 and 19 are dependent on independent claims 23 and 10, respectively, Applicants submit that the pending claims are patentably distinct from the cited references, either alone or in combination. Therefore, Applicants respectfully request withdrawal of this ground of rejection.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4500, Order No. 5000-4867. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is

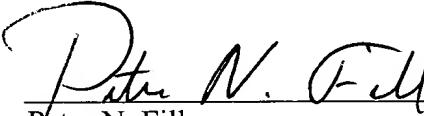
Amendment dated April 30, 2004
Reply to Office Action of Nov. 5, 2003

hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 13-4500, Order No. 5000-4867. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

Respectfully submitted,
MORGAN & FINNEGAN, L.L.P.

Dated: May 3, 2004

By:


Peter N. Fill
Registration No. 38,876

Correspondence Address:

MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, NY 10154-0053
(212) 758-4800 Telephone
(212) 751-6849 Facsimile